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PROCEEDINGS OF SCIENTIFIC SOCIETIES.

New York Academy of Sciences.—Biological Section.—

April 9. H. F. Osborn, in "A division of the Eutherian Mammals into the Mesoplocentalia and Cenoplacentalia", noted that the radiation of the mesozoic placentals into carnivorous, herbivorous and insectivorous types, was analogous to that of recent placentals, or to that of Australian marsupials; Mesoplacentalia would represent a group primitive, as in foot and brain, of great evolutionary inertia; it would include Amblypoda and Condylarthra as ungulate types, the Creodonta, Tillodonta and Insectivora as Ungulates and the Lemuroidea as primates.

O. S. Strong, exhibited "Nerve-cell Structures as demonstrated by Golgimethods", and presented for publication a memoir on the "Origin and Peripheral Distribution of the Cranial nerves of Amphibians."

P. Gibier, "A note on Glycosuria produced Experimentally."

A. B. Matthews, "On the Structure and Physiology of the Pancreas Cell." Bashford Dean, *Recording Secretary*.

Proceedings of the Natural Science Association of Staten Island.—April 14th, 1894 Mr. Chas. W. Leng exhibited living and mounted specimens of beetles, new to or rare on the Island, with the following memoranda :

BRYAXIS ABDOMINALIS (AUBE).

Three years ago I found a number of small beetles clinging to the underside of pieces of bark and wood lying on the banks of a salt meadow creek near Arlington; the beetles were first observed by me at the point where the railroad embankment ends and the trestle begins, but Mr. Davis had previously found the same or a closely allied species at other points on the border of the salt meadow. These beetles proved to be *Bryaxis abdominalis*, one of the Pselaphidæ, an addition to the fauna of Staten Island, and, in view of the numbers in which they were found and the rarity of the species of this family as a rule, an addition of unusual interest.

During the early spring of 1893 and again this year I have made some careful observations to determine the date of appearance and the exact localities frequently by those beetles. They may be found early

in February and as late as May, but disappear entirely in the summer months. During this brief period the eggs that are to produce the succeeding generation are laid and their life work being ended the beetles die.

To determine the localities I examined the border of the salt meadow at various points, usually accompanied by Mr. Davis. South of Oakwood a narrow peninsula of upland juts out into the meadow and there, on March 18th, the beetles were plentiful; the slight rise of ground was littered with boards, logs and fragments of bark, carried far inland by unusual tides, and almost every piece sheltered a *Bryaxis*. They did not extend more than ten feet from the meadow and they avoided those boards which were within a few feet of the meadow and constantly damp. On March 25th we searched the border of the meadow west of Richmond. The tides reach these meadows only by way of the Fresh Kills and the wreckage is sparse, perhaps becoming stranded before it reached so far inland. No *Bryaxis* were found. On April 1st I visited the strip of sandy upland that stretches into the meadow south of the water company's wells at New Springville. The conditions existing near Oakwood are here repeated and *Bryaxis* was found in some numbers. On the same day I crossed the turnpike and visited the meadows east of Chelsea, but there is an absence of any sharp dividing line between meadow and upland at that point; no suitable shelter is formed and no *Bryaxis* were found. On April 8th Mr. Davis, Mr. Walter Granger and I examined the meadows at Watchogue very thoroughly but found no large number of beetles. The day was, however, unfavorable and may have affected the result. During this period Mr. Davis twice visited the original locality at the trestle and found the beetles in numbers. This locality is particularly favorable; the operations of the railroad company have caused a quantity of soil to be thrown up in hillocks and ridges which afford the necessary retreat from high water and at the same time a lodging place for the chips and bark that shelter the beetles.

As the result of these observations, repeated in different years and at widely separated localities, I think I am justified in stating that *Bryaxis abdominalis* is abundant from February to May at the border of the salt meadow all around Staten Island; living not on the meadow or near enough to feel the influence of its dampness, but under wood or bark cast by the tide upon the upland.

These beetles are quite small and Mr. Craig kindly prepared a specimen for exhibition under the microscope.

The form of the antennæ, the single tarsal claw and the sculptured abdomen of the male are the characters specially noteworthy.

The family to which this beetle belongs comprises a goodly number of minute beetles, found either beneath stones or wood or in ants' nests. Their habits are but little known; they live on animal substances and their powerful mandibles and long palpal members seem to indicate that they capture fleet and hard shelled prey; some live in pairs while others are gregarious; those living in ants' nests appear to be trueinquilines; the ants which support them, by caressing the tufts of hair about the abdomen, cause the exudation of a fluid which they greedily swallow. The larvæ are unknown.

An excellent monograph, by Brendel and Wickham, may be found in the Bull. Laborat. Nat. Hist., State Univ., Iowa, Vol. 1 and 2.

It may be noted that two other minute beetles are always found with this *Bryaxis*, viz: *Scydmænus salinator*, Lec. and *Rhyphobius marinus*, Lec. They are not confined to such narrow limits as the *Bryaxis* but invariably occur where it occurs.

Mr. Leng also contributed the following: *Notes on Naias Flexilis*.

The water plant, *Naias flexilis* (Willd.), Rost. and Schmidt, reported by Mr. Davis at our last meeting, occurs also at Springville and at Bull's Head.

At Springville sparingly, in a small pool on the edge of the meadow, south of Union avenue in the second large field west of the Morning Star road.

At Bull's Head abundantly, in a ditch running south from Lambert's Lane and about a quarter of a mile west of the Morning Star road.

Mr. Arthur Hollick presented a set of three barred owl's (*Syrnium nebulosum*) eggs and read the following memorandum:

In our Proceedings for April 11th, 1891, may be found a short note in regard to a barred owl's nest having been found by Mr. Chas. Rufus Harte, in the vicinity of Bull's Head, on March 27th of that year. On March 12th, 1892, it was again visited by Mr. Harte, as noted in the Proceedings for April 9th, 1892. On each occasion he obtained a set of three eggs from the nest. So far as I am aware the owls were not disturbed in 1893.

I had obtained a rough diagram of the vicinity, sketched by Mr. Harte, and on March 11th, of this year, I undertook to search for the nest. With comparatively little trouble I located the tree, which is situated in the patch of woodland between Bull's Head and Willow Brook. The cavity in which the nest is located faces northwest and is about thirty feet from the ground. The tree is about five feet in

diameter, and destitute of branches below the cavity, so that I found it impossible to climb up. On March 17th I obtained a pair of climbing irons, and with these readily ascended to the nest, which I found to contain the usual number of three eggs, slightly incubated.

The tree is not one which would be likely to attract attention, as it is a vigorous living red oak (not a sweet gum as originally stated), and the cavity is not conspicuous. The female bird was readily alarmed—a slight tap on the tree being sufficient to cause her to leave the nest and to retire to some distance. I did not see the male bird at any time.

In this patch of woods gray squirrels are yet comparatively abundant and one or more pairs of red shouldered hawks nest there every year, besides many crows, but it is doubtful if they can remain undisturbed much longer, as the timber is large and valuable and in several sections the finest trees have been thinned out quite recently.

Mr. Wm. T. Davis exhibited a living pupa and mud cone of the seventeen year locust, with the following memorandum :

The pupæ of the seventeen year *Cicada* have made their appearance. While searching for *Bryaxis*, with Messrs. Leng and Granger, on April 8th, I found several under boards on the edge of the meadow at Old Place creek, one of which I am able to exhibit alive. The ground being damp the pupæ had erected their usual towers of earth, the boards not lying sufficiently close to the uneven ground to prevent their construction.

In the Proceedings for February 10th, 1894, the *Cicadas* that appeared in 1881 should have been referred to Brood XVII instead of XVIII.

Boston Society of Natural History, April 18.—The following papers were read. Mr. Herbert Lyon Jones: Adaptations of fruits and seeds for the purpose of distribution. Dr. Benjamin Lincoln Robinson: Observations upon tropical climbers. Samuel Henshaw, *Secretary*.